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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,221	07/08/2003	Robert E. Meiners	0315-0001	7290

37999 7590 02/23/2007
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EXAMINER	
PHAN, THAI Q	
ART UNIT	**PAPER NUMBER**
2128	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/614,221	MEINERS ET AL.	
	Examiner	Art Unit	
	Thai Phan	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10* is/are allowed.

6)☒ Claim(s) *1-9 and 11-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to applicant 's amendment filed on 11/22/2006. Claims 1-15 are pending in the Action.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stump, Grep, US patent application publication no. 2004/0168358 in view of Carlson et al, US patent application publication no. 2002/0162668 A1.

As per claim 1, Stump discloses a method and system for locating and detecting underground utility within a sub surface of the earth with feature limitations very identical to the claimed invention. According to Stump, the system includes

A computer (Fig. 4, (252)),

An input device for accepting GPS data into the system (Fig. 4, [0091]-[0094]),

Means within the computer for constructing a geoposition of an excavation or drainage system for the design ([0036]-[0039], [0051], for example),

Means for generating cost estimation for the excavation or drainage system ([0039]-[0050]),

And means for processing the machine excavator to perform the project ([0056]-[0061]). Stump does not expressly disclose a step and means for mapping a field using the plurality of data points as claimed. Such feature is however well-known in the art. In fact, Carlson teaches a method and system for precisely controlling and mapping positions of GPS data on the machine (Fig. 8A, block 210, Figs. 13, 14, [0011]-[0012], [0030], [0031], [0035], etc) for real time positioning the working tool.

It would have been obvious for those skilled in the art at the time of the invention was made to combine Carlson teaching of mapping GPS positioning data in real time to the working machine on a ground site for precisely mapping and controlling machine operation.

As per claim 2, Stump discloses a mobile vehicle for collecting survey data in GPS format ([0054], [0062], [0068]).

As per claims 3-6, Stump anticipates the claimed limitations for construction land survey, excavation site mapping, etc.

As per claim 7, Stump anticipates a method and system for locating and detecting underground utility within a sub surface of the earth with feature limitations very identical to the claimed invention. According to Stump, the method includes steps:

A computer for processing the collected data (Fig. 4, (252))

An input device for accepting GPS data into the system (Fig. 4, [0091]-[0094]),

Means within the computer for constructing a geoposition of an excavation or drainage system for the design ([0036]-[0039], [0051], for example),

Means for generating cost estimation for the excavation or drainage system ([0039]-[0050]),

And means for processing the machine excavator to perform the project ([0056]-[0061]). Stump does not expressly disclose a step and means for mapping a field using the plurality of data points as claimed. Such feature is however well-known in the art. In fact, Carlson teaches a method and system for precisely controlling and mapping positions of GPS data on the machine (Fig. 8A, block 210, Figs. 13, 14, [0011]-[0012], [0030], [0031], [0035], etc) for real time positioning the working tool along a perimeter of the working field.

It would have been obvious for those skilled in the art at the time of the invention was made to combine Carlson teaching of mapping GPS positioning data in real time to the working machine on a ground site for precisely mapping and controlling machine operation along the perimeter of the working site.

As per claim 8, Stump discloses a map with contour lines for excavation planning, etc.

As per claim 11, Stump anticipates a method and system for locating and detecting underground utility within a sub surface of the earth with feature limitations very identical to the claimed invention. According to Stump, the differential GPS system includes

A computer (Fig. 4, (252)),

Means for gridding a survey area and processing grid map for site planning,

An input device for accepting GPS data into the system (Fig. 4),

Means within the computer for constructing a geoposition of an excavation or drainage system, or topological mapping for the design ([0036]-[0039], [0051], for example),

Means for generating cost estimation for the excavation or drainage system ([0039]-[0050]),

And means for processing the machine excavator to perform the project ([0056]-[0061]).

Stump does not expressly disclose a step and means for mapping a field using the plurality of data points around a bounding box as claimed. Such feature is however well-known in the art. In fact, Carlson teaches a method and system for precisely controlling and mapping positions of GPS data on the machine (Fig. 8A, block 210, Figs. 13, 14, [0011]-[0012], [0030], [0031], [0035], etc) for real time positioning the working tool around the bounding box.

It would have been obvious for those skilled in the art at the time of the invention was made to combine Carlson teaching of mapping GPS positioning data in real time to the working machine on a ground site for precisely mapping and controlling machine operation for the bounded area as claimed.

Similarly, claims 12-15 are also rejected in like manner.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. As per claim 9, Stump anticipates a method and system/machine for locating and detecting underground utility within a sub surface of the earth with feature limitations very identical to the claimed invention. According to Stump, the system includes

A computer (Fig. 4, (252))

An input device for accepting GPS data in real time kinematics with differentiated data such as survey data, mapping data, process instructions, etc. into the system (Fig. 4, [0091]-[0094]),

Means within the computer for constructing a geoposition of an excavation or drainage system for the design ([0036]-[0039], [0051], for example),

Means for generating cost estimation for the excavation or drainage system ([0039]-[0050], [0091]-[0095]),

And means for processing the machine excavator to perform the project ([0056]-[0061]).

Allowable Subject Matter

Claim 10 is allowed. The following is an examiner's statement of reasons for allowance: the claimed invention is directed to a system for installing sub surface systems in a designated working area. The system includes means

a Real-Time Kinematic Differential Global Positioning System device electronically connected to said field computer for collecting survey data points;

an automated machine tool for installing sub surface components having a computer for controlling the grade according to an instruction set; and

a management computer comprising logic instructions for preparing a contour map from latitude, longitude, and altitude coordinates, a sub surface system design, preparing an instruction set to control the machine tool grade, and calculating cost estimates for the sub surface system design.

Because the prior art of record does not show or disclose such claimed features, claim 10 is allowed.

Response to Arguments

Applicant's arguments with respect to the amended claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai Phan whose telephone number is 571-272-3783.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

3. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Feb. 17, 2007

Thai Phan

THAI PHAN
PRIMARY EXAMINER
TECHNOLOGY CENTER 2100